

HAIR TREATMENT SYSTEM AND METHOD

BACKGROUND OF THE INVENTION

1. Field of the Invention

5 The present invention relates to a hair styling system. More particularly, the present invention relates to a hair treatment system and method utilizing a hot hair iron.

2. Description of the Related Art

10 Flat iron hair straighteners and/or crimpers are well known. Typically, these devices have two pivoting arms with at least one arm having a heating surface suitable for making direct contact with the hair of a user. These devices can be configured to provide a variety of different styling effects to the hair. For example, as locks of hair are gripped between the
15 two arms, the hair can be straightened, curled or crimped depending on the configuration of the heating surface.

 Furthermore, it is also well known to apply various
20 substances to the hair in the treatment and/or styling of hair. These substances are often in liquid semi-liquid (e.g., gel) form and are typically applied to the hair via a person's hand

and/or a delivery vessel with a dispensing outlet. Examples of substances commonly applied to the hair include moisturizing agents, anti-static agents, de-tangling agents, straighteners, conditioners, and shine enhancers. Certain of these various
5 substances are intended to be applied in a dry form or when the hair itself is dry. For example, it is desirable to apply certain substances only to the distal ends or portions of the hair rather than to the scalp. Another example is when it is desirable to apply a substance during a final styling step such
10 as brushing or blow-drying. Consequently, techniques have been developed to facilitate these different applications. For example, certain substances are applied to the hair via a medium such as a cloth or fabric. Typically, a piece of cloth or fabric is impregnated or soaked in the hair treatment substance
15 to be applied to the hair and is then applied to the hair as appropriate to achieve a desired effect (e.g., applied directly to the distal ends of the hair or to selected groups of hair).

In using a piece of cloth or fabric to apply a substance to
20 the hair, it is often necessary to drape or wrap the saturated cloth over and/or about the hair or head to facilitate the effective transfer of the substance to the hair. Further, it is also often necessary to apply heat, via a blow dryer, for

example, to facilitate the effective transfer of certain heat sensitive substances.

Accordingly, there is a need for an effective, efficient
5 and versatile system that facilitates the effective transfer of any of a variety of different hair treatment substances in accordance with various specialized or required hair styling or conditioning procedures.

10 SUMMARY OF THE INVENTION

It is an object of the present invention to provide a system, and related method, for efficiently and effectively applying any of a variety of substances to selected portions of a person's hair via a cloth.

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It is another object of the present invention to provide a system, and related method, for applying any of a variety of heat sensitive substances to selected portions of a person's hair via a cloth in combination with a heatable hair styling

20 tool.

It is a further object of the present invention to provide

a system, and related method, for applying any of a variety of substances to selected portions of a person's hair via a cloth in combination with a straightening and/or curling iron.

5 These and other objects and advantages of the present invention are achieved by a hair treatment system with a hair styling tool having a pair of pivotally connected arms, one or more hair contacting elements that can be permanently or removably connected to the hair styling tool, a securing frame
10 that can be permanently or removably connected to the one or more hair contacting elements and/or the hair styling tool, and an application cloth for applying a substance to desired, selected portions of a person's hair.

15 BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is an exploded perspective view of a hair styling or conditioning system in accordance with an illustrative embodiment of the present invention;

20 Fig. 2 is a top view of a contacting plate in accordance with an illustrative embodiment of the present invention;

Fig. 3 is a side view of the contacting plate of Fig. 2;

Fig. 4 is a bottom plan view of the contacting plate of
5 Fig. 2;

Fig. 5 is a plan view of a first frame element in
accordance with an illustrative embodiment of the present
invention;

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Fig. 6 is a plan view of a second frame element in
accordance with an illustrative embodiment of the present
invention; and

15 Fig. 7 is a plan view of the first frame element of Fig. 5
and second frame element of Fig. 6 cooperating to hold an
application cloth in accordance with an illustrative embodiment
of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Referring to the drawings and, in particular, Fig. 1, there is shown a hair treatment system in accordance with an illustrative embodiment of the present invention generally represented by reference numeral 1. Preferably, treatment system 1 has a hair styling tool 2, one or more heatable hair contacting elements 4 connected to hair styling tool 2, one or more securing frames 6 connected to hair styling tool 2 and/or hair contacting elements 4, and one or more application fabric or cloth 8 cooperative with hair contacting elements 4 via frames 6.

While the preferred aspects described herein relate, by way of example, to a styling tool as shown in Fig. 1, system 1 of the present invention may additionally and/or alternatively use any of a variety of other styling tools, such as, for example, curling irons, hair setters, setting rollers, and other like devices. Also, although a heat-activated substance is, by way of example, used to illustrate certain preferred aspects of the present invention, a variety of additional and/or alternative substances including, but not limited to, moisturizing agents, anti-static agents, de-tangling agents, straighteners, conditioners, shine enhancers and/or other heat-activated substances.

Hair styling tool 2 preferably has a pair of pivotally connected arms 10. Each arm 10 preferably has a hand gripping portion 12 and a hair engaging portion 14. Each arm 10 has a proximal end 16 and a distal end 20. Arms 10 are preferably pivotally connected at proximal end 16 thereof via a hinge 18. Hinge 18 preferably biases arms 10 apart. The bias associated with hinge 18 can be selectively overcome via a user interaction. For example, hand gripping portions 12 are preferably shaped, sized and/or configured to enable a user to efficiently overcome the bias of hinge 18.

Hair engaging portions 14 are preferably located at distal ends 20 of arms 10 and arms 10. Arms 10 can be manipulated, for example, via gripping portions 12 so that the arms pivot relative to each other about hinge 18 to selectively move hair engaging portions 14 between a closed, relatively parallel state, and an open, relatively angled state. Hair engaging portions 14 are preferably suitable for selectively mounting, holding and/or retaining hair contacting elements 4 and/or frames 6.

In one aspect of the present invention, hair engaging

portions 14 of each arm 10 form paddles that face each other so as to be selectively closed or clamped together and open or separated apart. In this aspect of the invention, hair engaging portions 14 are suitable to be clamped about selected portions of hair to apply heat and/or provide a styling effect thereto. Depending on the shape, size and/or configuration of hair engaging portions 14 and the technique employed, hair can be straightened, shaped and/or otherwise styled as desired.

Arms 10 can preferably be made of any suitable material and/or combination of materials for providing safe and effective handling. Also, arms 10 may have any appropriate shape or configuration sufficient to accommodate a variety of different applications in use.

Referring to Figs. 1 to 4, in a preferred aspect of the present invention, heatable hair contacting elements 4 selectively cooperate with hair engaging portions 14 to provide additional and/or alternative hair styling options. Contacting elements 4 may be fixed or removable with respect to hair engaging portions 14 and can have any shape, size and/or configuration appropriate for their intended use. For example, contacting elements 4 can have an upper surface 24 that is flat

or smooth for straightening hair, corrugated for crimping hair, or otherwise formed to provide other hair styling effects.

5 Contacting elements 4 can have an engaging groove 26 as shown in Fig. 4, preferably in a lower surface 28 thereof and with guides 29, for cooperating with a complementary engaging tongue 30 associated with hair engaging portions 14 as shown in Fig. 1. The tongue 30 can be either in and/or on the paddles. The tongue and groove connection can be used to facilitate the
10 interchangeability of the various contacting elements 4. Also, in one aspect of the present invention tongue 30 and groove 26 can be thermally interactive such that heat generated via hair styling tool 2 can be selectively transferred to an engaged contacting element 4 via tongue 30 of hair engaging portions 14.
15 Further, the tongue and groove connection can inhibit or prevent vertical displacement of contacting elements 4 with respect to hair engaging portions 14. In another aspect of the invention, hair engaging portions 14 can each have a lock/release mechanism 32 suitable to selectively secure contacting elements 4 in
20 position and, in combination with the tongue and groove connection, prevent any lateral displacement of contacting elements 4 with respect to hair engaging portions 14.

Contacting elements 4 can also have a fastener 34 with a locking element 32 for cooperating with a lock/release mechanism 33 associated with hair engaging portions 14 as shown in Fig. 1, to removably connect contacting elements 4 to hair engaging portions 14. Fastener 34 can additionally and/or alternatively be suitable to removably connect frames 6 to contacting elements 4 and/or hair engaging portions 14. For example, in one aspect of the present invention, hair engaging portions 14 are each provided with one or more flanges 36, shown in Fig. 1. Flanges 36 are preferably configured so that contacting elements 4 and/or frames 6 can be snap-fit thereover. Other configurations may additionally and/or alternatively be used.

Referring to Figs. 1 and 5 to 7, in a preferred aspect of the present invention, frames 6 preferably have two clamping elements, a first upper clamping element 38 and a second lower clamping element 40. First clamping element 38 preferably has a grasping portion 39 and can preferably be removably connected to hair styling tool 2. Second clamping element 40 can preferably be pivotally connected to first clamping element 38 via a pin 41 that cooperates with a socket 43 in first clamping element 38. Preferably, first and second clamping elements 38, 40 can selectively, securely hold or retain cloth 8

therebetween. For example, in one aspect of the present invention, first clamping element 38 can have one or more first securing elements 42, best shown in Fig. 1. Also, second clamping element 40 can likewise have one or more second
5 securing elements 44, best shown in Fig. 1. First securing elements 42 can preferably penetrate cloth 8 and traverse second securing elements 44. While second securing elements 44 can preferably receive first securing elements 42 when first clamping element 38 and second clamping element 40 are clamped
10 or closed together. Thus, cloth 8 can preferably be secured between first and second clamping elements 38, 40 via first and second securing elements 42, 44, and can be operatively connected to hair styling tool 2 via frames 6.

15 It is noted that other configurations and/or arrangements may additionally and/or alternatively be used to operatively connect cloth 8 to hair styling tool 2. For example, snaps, clips, VelcroTM straps, or any similar type connection may be used. Alternatively, cloth 8 can be modified to facilitate
20 cooperation between hair styling tool 2 and cloth 8. For example, cloth can be formed into a sock (not shown) with an open end suitable to slip over the hair styling tool in an operatively appropriate manner.

Preferably, each contacting element 4 is formed of a suitable heat conductive material such as, for example, a metallic material and/or a ceramic material.

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Cloth 8, as best shown in Fig. 7, is preferably suited to be selectively secured or clamped between clamping elements 38, 40 of each frame 6. One or more pieces of cloth 8 may be used as desired for accomplishing a desired hair styling effect.

10 Cloth 8 can have any of a variety of shapes, sizes and/or configurations appropriate to effectively cooperate with frames 6 and/or hair styling tool 2. Cloth 8 can be single-layered or multi-layered. Cloth 8 is preferably appropriately absorbent to selectively absorb and/or hold, as desired, any of a variety of
15 different substances (e.g., hair treatments). Cloth 8 can be disposable and/or reusable. Cloth 8 can be made of a paper and/or fabric construction. The absorbency and heat resistance characteristics associated with cloth 8 are preferably sufficient for its intended use. For example, hair styling tool
20 2 may operate at temperatures in excess of 200°C. Thus, cloth 8 is preferably able to safely withstand these temperatures. Also, cloth 8 is preferably able to effectively absorb substances of a variety of different consistencies and/or

viscosities.

Having described some of the preferred aspects of the present invention, the method for implementing the present invention to efficiently and effectively apply a substance to selected portions of a person's hair includes providing a hair styling tool such as, for example, the styling tool previously described herein. The styling tool is preferably operatively connected to contacting elements 4, securing frames 6, and cloth 8.

Referring again to Fig. 1, in use, one or more pieces of cloth 8 are preferably secured to hair styling tool 2 via securing frames 6. That is, the one or more pieces of cloth 8 are preferably sandwiched between clamping elements 38, 40 of each frame 6 such that securing elements 42, 44 thereof can securely hold the one or more pieces of cloth in place. Each frame 6 can be connected to hair styling tool 2 at any time, as desired, before and/or after cloth 8 is secured to frames 6. Frame 6 may be connected to hair styling tool 2 in any suitable manner (e.g., fasteners 34 and/or flanges 36). The one or more pieces of cloth 8 can have thereon the desired hair treatment substance. Cloth 8 may be provided with the desired hair

treatment substance at any time, as desired, before and/or after cloth 8 is secured to frames 6.

Once the one or more pieces of cloth 8 are properly secured to frames 6, and the frames are properly secured to the hair styling tool 2, the hair styling tool, which preferably has a heater (not shown) operatively connected to a power source (not shown) via a power cord 15, can be activated to provide heat either directly to the one or more pieces of cloth 8 or indirectly thereto via contacting elements 4.

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The hair treatment substance can then be applied to selected portions of the person's hair via the one or more pieces of cloth 8 in combination with hair styling tool 2 as desired. Thus, the one or more pieces of cloth 8 preferably cooperate with hair styling tool 2 so that a heat-activated substance contained in the pieces of cloth can be activated while in contact with the selected portions of hair during use of the hair styling tool to apply the hair treatment substance as desired to the hair.

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The present invention having been thus described with particular reference to the preferred forms thereof, it will be

obvious that various changes and modifications may be made therein without departing from the spirit of the present invention as defined herein.